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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,205	03/02/2004	Charles A. Milligan	2003-023-DSK	1991
51344 7590 02/23/2007 BROOKS KUSHMAN P.C. / SUN / STK 1000 TOWN CENTER, TWENTY-SECOND FLOOR SOUTHFIELD, MI 48075-1238			EXAMINER BUI, HUNG S	
			ART UNIT 2841	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/23/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/791,205	<b>Applicant(s)</b> MILLIGAN ET AL.	
	<b>Examiner</b> Hung S. Bui	<b>Art Unit</b> 2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 November 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5,8-10,12,15 and 17-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,8-10,12,15 and 17-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09/17/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/24/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 8-10, 12, 15, 18-19 and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Rabinovitz [US 5,822,184].

Regarding claims 1 and 12, Rabinovitz discloses a data storage system (figures 1-8), comprising:

- a plurality of data storage canisters (10, figures 1 and 8), each data storage canister comprising:
  - a shell (figures 1-3);
  - a frame (figure 3) disposed within the shell, the frame extending in a lengthwise direction along the shell;
  - a plurality of mounting points (figure 3) disposed along the frame, each mounting point capable of accepting one module (12) of uniform size the mounting points spaced such that mounted modules are mounted in a parallel, spaced apart manner (figure 3);
  - a connector (24) system operative to pass electrical signals through the shell; and a power bus interconnected to the connector system, the power bus operative to deliver power to each module (column 5, lines 13-21);

- a communication interconnect system operative to transfer signals between each mounted module and the connector; and
- a plurality of data storage modules (12) disposed within the shell, each data storage module mounted at one of the plurality of mounting points, each data storage module in electrical contact with the connector system, the power bus and the communication interconnect system.

Regarding claim 2-3, Rabinovitz discloses the canister comprises a retention system and at least one screw lock (14, 16, column 4, lines 55-59) for seating/holding the canister within the data storage (figure 8).

Regarding claim 8, Rabinovitz discloses a plurality of data storage modules being a plurality of disk drives (12, figure 1).

Regarding claim 9, Rabinovitz discloses the frame comprising a printed circuit card (figure 3).

Regarding claim 10, Rabinovitz discloses the frame having a rear connector (figure 3) can be connected with a cable.

Regarding claim 15, Rabinovitz discloses the modular data device (figure 8) having at least one controller (44, figures 6a-6c) being mounted therein and can recognizes capabilities of other packaging within the data device (column 5, lines 36-44).

Regarding claim 18, Rabinovitz discloses the data storage system including a plurality of virtual volumnes (figure 8).

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Regarding claims 19 and 23, Rabinovitz discloses the storage system having a first set of canisters and a second set of canister (figure 8), each of the set of canister includes a plurality of data storages as disk drives (12), wherein each of the canister has different kind of connections (column 5, lines 36-53). Therefore, a characteristic of each canister from the first set of canisters is different than the corresponding performance characteristic of the canister from the second set of canister and accepting variable bandwidth access therein.

Regarding claim 22, Rabinovitz discloses the wherein data storage modules are dynamically allocated.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovitz.

Regarding claim 17, Rabinovitz discloses a motherboard (22) having at least one controller (44, 48, column 5, lines 36-53) electrical interconnecting with the plurality of data storage modules.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the processor within a motherboard, for the purpose of providing operation the storage system.

5. Claims 5 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovitz in view of Kammergard et al. [US 5,737,189].

Regarding claim 5, Rabinovitz discloses the instant claimed invention except for the canister including a label, the label includes information specific to the plurality of data storage module.

Kammergard et al. disclose an electronic module (figure 1) including a label mounted thereon a front surface.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mounting label design of Kammergard et al. on the canister of Rabinovitz, for the purpose of indicating specific name of each canister in the electronic system.

The specific information including on the label would have been an obvious consideration based on the specific information of the specific kind of a storage that the manufacture want users to know.

Regarding claim 21, Rabinovitz discloses the instant claimed invention except for the canister comprising a user interface.

Kammergard et al. disclose the canister comprising a user interface (figure 1).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a user interface of Kammergard et al. in Rabinovitz, for the purpose of entering information into the device.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovitz in view of Coale et al. [US 6,272,573].

Regarding claim 20, Rabinovitz discloses the instant claimed invention except for the canister may connect to a docking station.

Coale et al. disclose a storage system (figures 1-2) having a docking station connected to at least one of a canister (figure 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the docking station design of Coale et al. with the canister of Rabinovitz, for the purpose of providing an extra functional canister that is compatible with other electronic devices.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-3, 5, 8-10, 12, 15, 17-23 have been considered but are moot in view of the new ground(s) of rejection.

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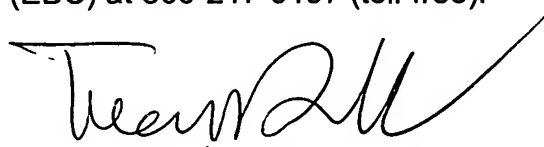
**Conclusion**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung S. Bui whose telephone number is (571) 272-2102. The examiner can normally be reached on Monday-Friday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A Reichard can be reached on (571) 272-1984. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

02/04/2007  
**Hung Bui**  
**Art Unit 2841**

  
Tuan Dinh  
AU 2841